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ABSTRACT

Assuming that superintendents and other administrators of small Texas schools need comparative data for planning and evaluating their annual athletic budgets, this report presents 10 statistical measures for predicting or appraising the levels of each of 3 main budget components--expenditures, revenues, and deficits. Computed from the 1972-73 athletic budgets of 40 Texas school districts, these measures are presented for general use. After explaining the goals, assumptions, methods, and limitations of the study, this report presents a statistical picture of the participating districts to enable readers to determine whether the computed measures are applicable to their own schools. These schools range between 242 and 942 in average daily attendance, are located in towns with a median 1970 population of 1,144, and are defined as small schools. The third section of this report presents the statistical measures computed for these school budgets and interprets them from the standpoint of their value as planning guidelines and evaluation criteria. Separate treatment is given to each of three classes of comparative data--measures of central tendency for planning or appraising the absolute levels of budget components, percentage ratios, and per capita ratios. Summarizing the findings, the final section concludes that the computed measures should help small school administrators answer comparative questions. (JC)

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SPORTS FINANCES IN SMALL TEXAS HIGH SCHOOLS: STATISTICAL MEASURES TO SERVE AS ATHLETIC BUDGET-MAKING GUIDELINES AND EVALUATION CRITERIA

By Dr. Leo Lambert

[1974]

RC009729

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Epitome

Under the assumption that superintendents and other administrators of small Texas schools need comparative data for planning and evaluating their annual athletic budgets, this report offers them ten statistical measures for predicting or appraising the levels of each of three main budget components: expenditures, revenues, and deficits. Computed from the 1972-73 athletic budgets which the superintendents of 40 Texas school districts voluntarily submitted to the author, the measures are deemed to be generally useful even though they have a number of serious limitations. Their present deficiencies, it is hoped, will be overcome through future research involving the cooperation of a larger number of school districts and the use of more sophisticated methods.

After explaining the goals, assumptions, methods, and limitations of the study (Section I), the report presents a statistical picture of the participating districts to enable readers to determine whether the computed measures are applicable to their own schools. Having ADA enrollments ranging between 242 and 942 and being located in towns with a median 1970 population of 1,144 and in sparsely populated and generally declining rural counties, the sampled school districts are characterized, in Section II, as being definitely "small schools."

In the next part of the report (Section III), the statistical measures which were computed from the 1972-73 budgets of these small schools are presented and interpreted from the standpoint of their value as planning guidelines and evaluation criteria. Separate treatment is given to each of three classes of comparative data: (1) measures of central tendency (weighted means and medians) for planning or appraising the absolute levels of budget components, (2) percentage ratios, and (3) per capita ratios.

In the final part of the report (Section IV), the findings are summarized and assessed, the main conclusion being that the computed measures should definitely help small-school administrators answer four main questions which

presently they are unable to answer because of the lack of comparative data. This section also characterizes the report, however, as only a preliminary study which in time may be supplanted with one containing completely trustworthy guidelines for planning and evaluating small-school athletic budgets.

SPORTS FINANCES IN SMALL TEXAS HIGH SCHOOLS: STATISTICAL MEASURES TO SERVE AS ATHLETIC BUDGET-MAKING GUIDELINES AND EVALUATION CRITERIA

I. NATURE OF THIS REPORT FOR ATHLETIC BUDGET MAKERS AND EVALUATORS IN SMALL TEXAS SCHOOLS

A. Mission of Providing Superintendents with Ratios Computed from the Athletic Budgets of 40 ISD's with ADA's below 1,000

Prepared for superintendents and other administrative personnel of small Texas schools, this report aims to provide them with statistical measures such as should help them either plan or evaluate their districts' annual athletic budgets. The measures were computed, during the Spring of 1974, from the 1972-73 athletic budgets which had previously been submitted, on a purely voluntary basis, by the superintendents of 40 Texas schools with enrollments of less than 1,000 to the author.

B. Assumption That School Personnel Need Comparative Data to Help Them Prepare or Evaluate Their Annual Athletic Budgets

Underlying the report is the explicit premise that school personnel concerned with athletic budget-making are now seriously handicapped by the dearth of comparative data for answering such questions as the following:

(1) Is the amount of money we budget for the athletic program in line, or out of line, with that budgeted by other small Texas schools?

(2) Do we compare favorably, or unfavorably, with other small Texas schools with respect to the amount of Enterprise Fund income we derive from gate receipts, concession profits, and the like?

(3) How do we measure up with other small Texas schools regarding the amount of athletic-program subsidy we require from district taxpayers?

(4) How much should we:

(a) budget for the athletic program;
(b) derive from gate receipts; and
(c) expect district taxpayers to contribute to the athletic program costs?

A search of the literature will show that hardly any published data are available to help small-school administrators answer such questions. Although Wray has published a few budget-making guidelines based on a survey of 23 public and private secondary schools in Illinois,[1] his three-page article hardly meets the needs of small-school administrators in Texas. The same is true of a report, quite similar to the present one, which the author recently published for budget-makers in large Texas school systems, including those in Houston, Dallas, and San Antonio.[2] This earlier publication, which shows clearly that school-district size is a key determinant of athletic expenditures, revenues, and deficits, on a relative as well as on an absolute basis, definitely needs to be supplemented with a companion report prepared specifically for superintendents of schools with fewer than 1,000 pupils.

The present report, then, though it has some serious limitations (see Subsection "D" below), should help to fulfill what the author firmly believes to be a real and urgent need.

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[1] Jerome A. Wray, "Costs of Secondary School Athletic Programs," School Management, XVI (November, 1972), pp. 26-28.

[2] Leo Lambert, "Athletic-program Finances in Five Classes of Texas School Districts: A Ratio Analysis of 1972-73 and 1973-74 Data to Aid Budget Makers," Austin, Texas, July, 1974.

C. Delimitation of the Report's Scope to Ten Statistical Measures for Each of the Athletic Budget's Three Major Components

With respect to its scope, the report is limited to the presentation of ten statistical measures for each of the athletic budget's three major components: expenditures, revenues, and deficits (or taxpayer subsidies). The ten measures, which can be put under one or the other of three classifications -- central-tendency measures, percentage ratios, and per capita ratios -- include the following:

I. Central-tendency Measures

(1) Component mean values.
(2) Component median values.

II. Percentage Ratios

(3) Component value as a per cent of all budgeted school expenses.
(4) Component value as a per cent of all budgeted athletic expenditures.
(5) Component value as a per cent of ISD assessed valuation.

III. Per Capita Ratios

(6) Component value per student in all grades.
(7) Component value per student in Grades 9-12.
(8) Component value per person on school's professional staff.
(9) Component value per person in ISD's home town.
(10) Component value per registered voter in ISD's home county.

As has already been noted, all athletic-program data used in the computation of the ten measures were taken from the 1972-73 athletic budgets voluntarily submitted by the superintendents of 40 small Texas ISD's. Other needed data were derived from such sources as Texas Education

Agency, U. S. Bureau of the Census, and other official agencies identified in the footnotes to tables presented in the report. Although electronic data-processing methods were also used, primarily as a means of deriving correlations reported elsewhere,[3] all the statistics used in this report were manually processed with the aid of a desk-top calculator.

D. Utility of Computed Ratios Despite Limitations of Small Sample Size and Respondents' Understatements of Athletic Expenses

While the author's long-range goal is ultimately to develop completely reliable budget-making guidelines and evaluation criteria, with new and better measures substituting for those found in the present report, the ratios now being made available should, it is believed, still have considerable utility. This is true even though, admittedly, they have certain limitations.

For one thing, they are based on only a small sample of districts with less than one thousand pupils. Moreover, there is no assurance that the schools represented in the sample are representative of all Texas school districts in their size classification. While all ISD's were requested to provide copies of their 1972-73 budgets, those which complied with the request may possibly be quite different from those which declined to do so.

For another limitation, an analysis of the budgets of the 40 responding school systems made it clear that almost all of them grossly underestimated the actual costs of their athletic programs. Typically, the submitted budgets included, as athletic expenditures, only payroll costs and the costs of equipment and supplies to be purchased.

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[3] Leo Lambert, "Athletic Expenditures, Revenues, and Deficits of Texas Secondary Schools: Some Ratios and Correlates." This manuscript, as yet unpublished, reports data for a total of 105 Texas secondary schools in all size classifications.

Generally excluded were such costs as debt-service charges (as, for example, on bonded indebtedness for stadia and other facilities), transportation costs, and maintenance and utility expenses.[4] Since, however, other small Texas schools probably follow the same understatement practices in preparing their budgets, this limitation, from the standpoint of the comparative utility of the study, may be less serious than on first sight it would seem to be.

Still another limitation is that the report's computed measures which depict or are based upon absolute component values are inherently unstable under inflationary conditions. As total school costs increase, the absolute and per capita costs of athletic-program costs, revenues, and deficits will also rise. Consequently, administrators will have to make some adjustments, mental or otherwise, before they will be able validly to apply some of the ratios shown in this report to athletic budgets for 1973-74 and for later school years.

Finally, it may be noted that at least one of the ratios -- component value as a per cent of ISD assessed valuation -- may be based upon noncomparable data. As is well known, in Texas there is hardly any consistency, from district to district, in the methods which tax assessors use to evaluate and assess taxable property.

E. Plan of First Giving a Statistical Picture of the Sampled ISD's and Their Community Environments and Then Presenting and Interpreting the Computed Guidelines

As a means of helping readers relate their own school districts and communities to those represented in the present study, the next section of this report presents a statistical picture of the sampled ISD's and their home towns and home counties. Afterwards, in Section III, the

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[4]For additional information on the limitations of accounting procedures used in making athletic budgets, see Leo Lambert, "Do Texas School Administrators Know How Much They Spend -- or Should Spend -- on Competitive Sports?" Texas School Business, August, 1974.

report presents and interprets, for each of the three major budget components -- expenditures, revenues, and deficits -- the planning guidelines and evaluation criteria which were computed from the 1972-73 athletic budgets of the participating districts. The report is then concluded with a short section which, in addition to summarizing and assessing the findings, makes certain recommendations for carrying cut further research.

Table I

Selected Human Characteristics of the Forty Small Texas Districts That Provided Athletic Budgets from Which Guidelines and Evaluation Criteria Were Computed

Variables	Values			
	Low	High	Mean	Median
Number of Pupils in All Grades, 1972-73	242	942	546	551
Number of Pupils in Grades 9-12, 1970-71	70	375	189	188
Number of Persons on the Professional Staff, 1970-71	14	66	35	36

Source: Texas Education Agency

II. CHARACTERIZATION OF THE PARTICIPANT DISTRICTS AS SMALL-TOWN SYSTEMS LOCATED IN SPARSELY POPULATED RURAL TEXAS COUNTIES

As is noted in the preceding paragraph, one purpose of the present section is to draw a statistical picture of the 40 Texas ISD's whose superintendents provided the 1972-73 athletic budgets from which planning guidelines and evaluation criteria were computed. Another objective is to disclose key demographic and economic data about the communities (home towns and home counties) in which they are located. From the data presented in the three subsections which follow, readers should be able to determine whether their own districts and district environments are similar to those represented in the study.

A. Sampled District, with ADA's between 242 and 942, Have "Small School" Human and Financial Characteristics

The selected data computed for the ISD's themselves include those for both human and financial characteristics. These data, presented in Table I and Table II, are briefly interpreted below.

1. Enrollment and Staffing Means and Medians Emphasize the Sampled Districts' Small Size

The general impression that one gets from Table I is that the sampled districts definitely qualify as "small schools." In 1970-71, half of them had fewer than 36 professionals on the staff and less than 188 students in Grades 9-12. For the 1972-73 school year, total enrollment (gross ADA) ranged between 242 and 942 and averaged 546 pupils, the median number being 551.

How many Texas ISD's are similar in size to those represented in this study? An analysis of the Texas Education Agency's

Table II

Selected Financial Characteristics of the Forty Small Texas Districts That Provided Athletic Budgets from Which Guidelines and Evaluation Criteria Were Computed

Variables	Values			
	Low	High	Mean	Median
ISD Assessed Valuation, 1973-74 ($000)	2,670	40,768	15,367	11,808
Total Current Expenses, 1970-71 (Dollars)	143,332	729,851	395,380	398,822
Per Capita Costs, ADA, 1970-71 (Dollars)	557.78	948.08	685.26	733.18
Estimated per Capita Costs, ADA, 1972-73 (Dollars)	596.82	1,014.57	760.68	778.26
Estimated Total Current Expenses, 1972-73 (Dollars)	186,461	744,180	420,650	408,798

Source: Texas Education Agency

Bulletin 728 for 1971-72 showed that, during the school year covered, Texas had 387 ISD's with enrollments between 242 and 942. The 40 ISD's which participated in this inquiry, therefore, constitute approximately 10 per cent of the universe.

2. Small Size Is Also Shown by Financial Data, Including the Fact That One-half the Districts Spent Less Than $408,798 for All 1972-73 Outlays

To resume the analysis, the financial data shown in Table II further attest to the small size of the sampled districts. Although ISD assessed valuations averaged $15,367 thousand in 1973-74, one-half of the school systems had a tax value of less than $11,808 thousand. In 1970-71, the districts' total school expenses ranged between $143,332 and $729,851, with the median value being $398,882. Although the actual total-expense figures for 1972-73 were not available when the study was made, it was estimated that, during that year, one-half of the schools spent less than $408,798 for all outlays.[5]

Despite the lack of assurance that the districts which participated in this study are representative of all those in the universe, readers might be justified in assuming that the ratios to be presented in a subsequent section are applicable to their own athletic budgets if their ISD's have human and economic characteristics similar to those which have just been reported. Readers might also do well, however, to compare their districts' home towns with those represented in the present study.

B. Between 175 and 5,608 People Live in Each Sampled District's Home Town, the Median 1970 Population Being 1,144

As might be expected, the home towns of the sampled districts in all cases have small or modest populations. When the 1970

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[5]The method of estimating 1972-73 expenditure figures was as follows: First, assuming an annual inflation rate of 7 per cent, the data processor increased each ISD's 1970-71 per capita cost figure, as reported by the Texas Education Agency, by that amount. Adjusted per capita cost figures were then multiplied by 1972-73 enrollment figures, as reported by the Texas Education Agency, to derive the estimates of total 1972-73 expenditures shown in Table II.

Table III

Population Classes Represented by the Home Towns of the Forty Districts That Provided Athletic Budgets from Which Guidelines and Evaluation Criteria Were Computed

Population Classes (Number of Persons, 1970)	No. of ISD's	Total Pop.	% of Pop.
Less than 1,000	15	7,052	11.32
1,000 to 2,000	16	22,510	36.13
More than 2,000	9	32,739	52.55
Totals	40	62,301	100.00

Source: U. S. Bureau of the Census

Table IV

Selected Demographic Characteristics of the Home Counties of the Forty Small Schools That Provided Athletic Budgets from Which Guidelines and Evaluation Criteria Were Computed

Variables	Values			
	Low	High	Mean	Median
Total Population, 1970	1,155	37,796	15,469	14,800
Total Population, 1960	1,118	40,139	16,118	15,070
Number of Registered Voters, 1971	423	14,000	6,155	5,829
Number of Employed Persons, 1971	31	7,565	2,116	1,486

Sources: U. S. Bureau of the Census, Texas Secretary of State, and Texas Employment Commission

Census was made, more than three-fourths of them had head-counts below 2,000, and, of these, almost one-half had fewer than 1,000 inhabitants, as can be seen from Table III. Although 1970 head-counts went as high as 5,608, one-half of the communities had less than 1,144 people.

C. Home Counties of Sampled Districts Tend to Have Small, Declining Populations and Low Economic Indexes

Like the data for home towns, those for home counties characterize the ISD's as predominantly rural school systems. These counites, as can be seen from Map 1, are concentrated a good deal in the High Plains and Northwestern and North Central parts of the state.[6] Their human and economic characteristics are described below.

1. **One-half the Sampled Counties Have Less Than 14,800 People, Fewer Than 5,829 Registered Voters, and below 1,486 Employed Persons** The selected demographic data are shown in Table IV. With 1970 populations ranging between 1,155 and 37,796 and striking a median value of 14,800, it is clear that the represented counties are sparsely populated. On the whole, too, they are losing population. In 1960, as a group, the 39 counties had a combined population of 628,607, but in 1970 the corresponding figure was 603,281, or 4.03 per cent less. In the 1960's, a total of 24 of the 39 counties, or more than two-thirds of them, declined in population size.

As rough measures of the size of the represented counties' adult populations, the figures shown in Table IV for numbers of registered voters and employed persons have some value. As can be seen, median values for these two measures are 5,829 and 1,486, respectively.

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[6] Since two of the sampled ISD's are located in the same county, only 39 counties are represented in the study.

Table V

Selected Economic Characteristics of the Home Counties of the Forty Small Districts That Provided Athletic Budgets from Which Guidelines and Evaluation Criteria Were Computed

Selected Variables	Values			
	Low	High	Mean	Median
Economic Index (%)	0.036	0.435	0.143	0.107
Tax Value ($000)	10,286	94,341	32,738	23,233
Wages of Employed Persons, 1971 (Dollars)	145,292	46,039,821	11,096,727	7,357,317
Annual Earnings of Employed Persons, 1971 (Dollars)	3,547	7,433	5,243	4,776

Sources: Texas Education Agency, Texas State Comptroller, and Texas Employment Commission

2. Economic Data for the Counties Suggest Depressed Living Conditions for Many of Their People

To turn now to economic characteristics, a few comments may be made about the figures shown in Table V. While many of the home counties are located in the agriculturally rich High Plains, all of them as a group still account for only 5.568 per cent of the total Texas economy, the median Economic Index computed by the Texas Education Agency being 0.107 per cent. With half of the counties' employed persons earning less than $4,778 in 1971, it would seem clear that many people living in these counties suffer considerable economic hardships. It should be noted, however, that "employed persons" include only those working for firms with four or more persons on the payroll. Excluded are farmers, ranchers, business owners, and other non-salaried individuals.

Now that the sampled ISD's, their home towns, and their home counties have been briefly characterized, readers should be able to determine whether the budget-making guidelines and evaluation criteria to be presented in the following sections are applicable to their own districts.

III. PRESENTATION AND INTERPRETATION OF STATISTICAL MEASURES FOR PLANNING AND EVALUATING SMALL-SCHOOL ATHLETIC BUDGETS

In planning or evaluating their own budgeted athletic expenditures, revenues, and deficits, small-school administrators may wish to apply, not just a single standard or criterion, but rather several different statistical guidelines. The goal of the present section is to provide them with the means of doing so by presenting and interpreting 30 statistical measures which were computed from the 1972-73 athletic budgets submitted by the 40 participating school districts described in Section II. These planning and evaluation guidelines are categorized into three classes, as follows: (1) central-tendency measures for absolute component values, (2) percentage ratios, and (3) per capita ratios.

A. Measures of Central Tendency for Estimating or Evaluating Absolute Levels of Expenditures, Revenues, and Deficits

The computed central-tendency measures include weighted mean and median values for each of the three major budget components: expenditures, revenues, and deficits. While such data are inherently unstable under inflationary conditions, they still should have utility for helping administrators assess the absolute levels of their planned or anticipated expenditures, revenues, and deficits.

1. Sampled Districts Budgeted an Average of $17,149 for Their 1972-73 Athletic Programs

To start with total expenditures, Table VI shows that in 1972-73 the 40 participating ISD's budgeted anywhere from $2,442 to $41,535 for their athletic programs. Although

Table VI

Measures of Central Tendency for Planning and Evaluating the Absolute Levels of Small-School Athletic Expenditures, Revenues, and Deficits

Budget Components	1972-73 Values (1972-73 Dollars)			
	Low	High	Weighted Mean	Median
Expenditures	2,442	41,535	17,149	15,290
Revenues	800	15,600	5,830	5,345
Deficits	1,500	33,319	11,319	9,242

Source: 1972-73 athletic budgets submitted by 40 Texas ISD's with enrollments below 1,000 ADA.

the district with the largest budgeted expenditure of $41,535 also had the largest enrollment (ADA of 942), there was no clear linear relationship between expenditure levels, which seemed to be almost randomly dispersed, and school-district size. Despite the wide range depicted, therefore, the two measures of central tendency should be fairly dependable guidelines. As the table shows, they include $17,149 as the weighted mean and $15,290 as the median. Of the two, the median should be the better guideline, for it is less affected by extreme values than is the mean.

While the data are not shown in Table VI, computations were made of the values of the payroll component of budgeted athletic expenditures. Representing 39.70 per cent of all budgeted athletic expenditures, payroll costs ranged from $1,000 to $29,140 and averaged $6,809. Again, though, the median value -- in this case, $5,090 -- is probably the better measure of central tendency.

2. Budget-makers Anticipated 1972-73 Gate Receipts Totalling $233,198 and Averaging $5,830 per District

To turn now to gate receipts and related revenue, it can be seen from Table VI that the participating districts in 1972-73 had a wide range of expectations -- from as little as $800 to as much as $15,600. Although the average expected volume was $5,830, one-half of the districts predicted gate receipts of less than $5,340 while the other one-half anticipated income above that amount. Again, the distributions showed no clear linear relationship between volume of anticipated gate receipts and school-district size.

It is interesting that the median value of anticipated gate receipts closely matched the median value of payroll expenditures. A rough, general rule of thumb might be that gate receipts should bring in at least enough to meet payroll expenses.

3. Mean Deficit for 1972-73 Is Estimated at $11,319, the Median Value Being $9,242

Since on the whole the sampled districts expected gate receipts to do little more than offset payroll costs, it is clear that they experienced deficits in 1972-73. Under the assumption that both their cost and their revenue estimates were

Table VII

Percentage Ratios for Planning and Evaluating the Relative Magnitudes of Small-school Athletic Expenditures, Revenues, and Deficits

Budget Components	Component Values as a Per Cent Of All School Expenses	Of Total Athletic Expenditures	Of $1,000 of ISD Assessed Valuation
Expenditures			
Lowest Value	1.192	100.000	0.340
Highest Value	11.046	100.000	3.298
Weighted Mean Value	4.077	100.000	1.112
Median Value	3.873	100.000	1.101
Revenues			
Lowest Value	0.102	7.859	0.011
Highest Value	3.825	63.143	1.462
Weighted Mean Value	1.386	33.995	0.380
Median Value	1.574	36.007	0.418
Deficits			
Lowest Value	0.160	28.022	0.097
Highest Value	10.013	92.140	2.823
Weighted Mean Value	2.690	66.005	0.723
Median Value	2.458	63.471	0.666

Source: 1972-73 athletic budgets submitted by 40 Texas ISD's with enrollments below 1,000 ADA.

reasonably accurate, these deficits ranged from as little as $1,500 to as much as $33,319. Because of the wide spread between the extreme values, the weighted mean of $11,319 is a less reliable measure of central tendency than is the considerably lower median of $9,242, signifying that one-half of the sampled ISD's had deficits below, while the other one-half had deficits above, that amount.

While the measures of central tendency for expenditures, revenues, and deficits which have just been presented are helpful for assessing the absolute levels of budget components, small-school administrators may also wish to apply guidelines which will enable them relatively to relate expenditures, revenues, and deficits to other financial variables. For such purposes, the percentage ratios presented and interpreted in the following section may be of some help.

B. Percentage Ratios for Planning or Evaluating the Relative Magnitudes of Expenditures, Revenues, and Deficits

As can be seen from Table VII, the percentage ratios computed include those which relate each of the three budget components to (1) total school spending, (2) the total sum budgeted for the athletic program, and (3) district assessed valuation, expressed in thousands of dollars. A few interpretative comments about the data shown are made in the following three paragraphs.

1. Athletic Programs Shared 4.077% of Sampled Districts' Total School Budgets in 1972-73

Despite their close similarity in size and other characteristics, the 40 sampled schools varied widely with respect to the shares of their total spending which they allocated to their athletic programs. As can be seen from Table VII, the "low" district limited its athletic-program share of all spending to 1.192 per cent; the "high" school, in contrast, allowed sports 11.046 per cent of the total educational budget. Despite the wide spread between these two extreme values, though, the weighted mean value of

4.077 per cent is fairly close to the median of 3.873 per cent. As a rough, general rule of thumb, small-school administrators might perhaps consider an athletic-program share of the total budget between 3.00 and 4.00 per cent as a good planning and evaluation standard.

In addition, budget makers or evaluations may wish to apply still another percentage ratio -- the value of budgeted athletic expenditures as a per cent of ISD assessed valuation. On the average, the 1972-73 athletic budgets of the participating districts amounted to $1.112 per each one-thousand dollars of ISD assessed valuation, the median value being slightly lower.

2. Anticipated 1972-73 Gate Receipts Represented 1.386% of All School Expenses and 33.995% of Athletic Costs

With respect to gate receipts, the most interesting, and perhaps the most useful, percentage ratio is that which relates athletic income to athletic spending. Although one district in the sample estimated that gate receipts would be sufficient to defray 63.143 per cent of budgeted athletic expenses, the mean and median values computed were much lower. As can be seen from Table VII, the average district in 1972-73 expected gate receipts to absorb only 33.995 per cent of athletic-program costs. One-half the sampled districts, however, counted on gate receipts to defray more than 36.007 per cent of program costs. Roughly speaking, it would seem, any small school district which can make gate receipts offset between one-third and two-thirds of costs can consider itself to be rather fortunate.

3. 1972-73 Deficits Soared as High as 10.013% of All School Expenses but Averaged Only 2.690%

As far as deficits are concerned, the percentage share of all school expenses which they represent may well be the most meaningful ratio. In one of the ISD's studied, the 1972-73 athletic-program deficit amounted to 10.013 per cent of all school expenses, but this level was far above the weighted average of 2.690 per cent and more than four times as large as the median of 2.458 per cent. There is the very strong suggestion that the "high" district was unduly overemphasizing sports as a part of the

Table VIII

Per Capita Ratios for Planning and Evaluating Small-School Athletic Expenditures, Revenues, and Deficits

	Values (1972-73 Dollars)			
	Low	High	Weighted Mean	Median
Expenditures				
Per Pupil, All Grades	7.54	80.97	31.44	31.52
Per Pupil, Grades 9-12	17.70	274.53	89.76	94.39
Per Professional Staff Member	101.75	1,064.85	484.45	454.07
Per Home-town Inhabitant	1.31	78.70	11.01	9.93
Per Home-county Registered Voter	0.30	22.48	2.83	2.73
Revenues				
Per Pupil, All Grades	1.66	31.97	10.69	9.72
Per Pupil, Grades 9-12	5.23	100.54	30.92	29.65
Per Professional Staff Member	24.19	487.60	164.69	158.55
Per Home-town Inhabitant	0.31	37.99	3.74	5.18
Per Home-county Registered Voter	0.13	10.05	0.96	0.99
Deficits				
Per Pupil, All Grades	3.90	73.40	20.75	17.30
Per Pupil, Grades 9-12	12.50	248.87	59.25	58.89
Per Professional Staff Member	75.00	965.30	319.76	313.65
Per Home-town Inhabitant	1.32	91.78	7.27	9.80
Per Home-county Registered Voter	0.18	18.32	1.87	1.78

Source: 1972-73 Athletic budgets submitted by 40 Texas ISD's with enrollments below 1,000 ADA.

total educational program. As a general rule, school administrators whose district deficits rise far above the median of 2.458 per cent might well consider the possibility that they, too, are overemphasizing athletics at the expense of other parts of the educational program.

For additional means of planning and evaluating small-school athletic budgets, we may now turn to per capita ratios for athletic expenditures, revenues, and deficits.

C. Per Capita Ratios for Relating Athletic Expenditures, Revenues, and Deficits to ISD and Community Size

Per capita ratios, as can be seen from Table VIII, include those based on (1) number of pupils in all grades, (2) number of pupils in Grades 9-12, (3) number of ISD professional personnel, (4) number of persons living in the ISD's home town, and (5) number of registered voters in the ISD's home county. All should provide small-school administrators with guidelines for relating their athletic expenditures, revenues, and deficits to school-district and community size.

1. Sampled Districts 1972-73 Athletic Expenditures Averaged $31.44 per Pupil and $11.01 per Person in Their Home Towns

Regarding the first budget component of athletic expenditures, the computed data show that, on the average, the sampled districts estimated that in 1972-73 they would spend $31.44 per student in all grades, $89.76 per pupil in Grades 9-12, $484.45 per person on the professional staff, $11.01 per home-town inhabitant, and $2.83 per registered voter in their home counties. Except in the case of expenditures per pupil in Grades 9-12 and expenditures per professional staff member, median values are somewhat lower than those for the weighted means.

In the case of all five ratios, the ranges between extreme values are quite wide. One of the most striking comparisons is that which shows the "low" district budgeting only $17.70 per pupil in Grades 9-12 and the "high" one allocating $274.53, or more than fifteen times as much. A cause for some amazement, too, is the reported fact that while one

ISD got by on as little as $101.75 per professional staff member, another district saw fit to spend $1,064.85, or more than ten times as much. Such wide spreads would suggest that objective standards for helping small-school administrators plan and evaluate athletic budgets are desperately needed. While it is in no way the function of the present report to take a critical stance, the magnitudes of the highest values represented in Table VIII would seem clearly to imply, also, that some small schools definitely go "overboard" in their spending on competitive sports.

At least the median values shown, however, should still be fairly trustworthy guidelines. It is suggested that small-school administrators who wish to steer clear of the pitfall of athletic overemphasis would do well to keep their sports budgets below $35 per pupil in all grades, below $100 per pupil in Grades 9-12, and below $500 per professional staff personnel.

2. Median Values for 1972-73 Gate Receipts Were $29.65 per Secondary Pupil, $5.18 per Home-town Inhabitant, and $0.99 per Home-county Voter

Under the assumption that most small schools charge about the same price for admissions tickets, concession items, and the like, the per capita ratios for the second component shown in Table VIII should be reasonably valid guidelines for anticipating gate receipts or for evaluating the actual financial results of sports events. Although the spread between extreme values is quite wide for each of the five measures shown, the median values are suggestive. Roughly speaking, on the basis of these figures, budget-makers might reasonably expect gate receipts to amount to about $10 per pupil in all grades, to about $30 per pupil in Grades 9-12, to about $160 per professional staff member, to about $5 per home-town inhabitant, and to about $1.00 per registered voter in the home county.

3. 1972-73 Athletic Deficits Had Median Values of $9.80 per Home-town Inhabitant and $1.78 per County Voter

Regarding the third budget component of athletic deficits, perhaps the best evaluation guideline is the sport program's per capita cost to persons living in the community. In the sampled

districts, as can be seen from Table VIII, the subsidy costs of school sports reached as high as $91.78 per home-town inhabitant ($458.90 for a family of five) and as much as $18.32 per home-county registered voter. Median values for these two ratios, however, were $9.80 and $1.78, respectively. In the median school district, local taxpayers supported the athletic program in the amounts of $58.89 for every pupil in Grades 9-12 and $17.30 for each pupil in all grades.

With all computed measures having by now been presented and interpreted, the report can be brought to a close with a short summarizing section.

IV. SUMMARIZATION AND ASSESSMENT OF THE REPORT'S FINDINGS WITH A LOOK TO THE FUTURE

What has this report attempted to do, and what specific contributions has it made? What assessments may be made of the results? What recommendations may be made for overcoming its present limitations and deficiencies? To answer such questions is the objective of this final section.

A. Report Offers Small-school Administrators 30 Statistical Measures for Planning and Evaluating Their Annual Athletic Budgets

Based on the assumption that small-school administrators need comparative data to serve as athletic budget-making guidelines and evaluation criteria -- data which cannot now be found in the published literature -- this report has presented and interpreted 30 statistical measures which were computed from the 1972-73 athletic budgets voluntarily submitted to the author by the superintendents of 40 Texas ISD's with ADA enrollments ranging between 242 and 942 pupils and with environmental (home town and home county) characteristics which definitely characterize them as "small schools." The statistical measures presented include two central-tendency measures for absolute levels, three percentage ratios, and five per capita ratios for each of the athletic budget's three major components: expenditures, revenues, and deficits.

To highlight the findings for expenditures, the report has shown that in 1972-73 the median district in the sample budgeted $15,290 for athletics. In the median district, the absolute value of athletic expenditures amounted to 3.873 per cent of all school expenses and to 1.101 per cent of each one-thousand dollars of ISD assessed valuation. On a per capita basis, median expenditure values

computed were $31.52 per student in all grades, $94.39 per pupil in Grades 9-12, $454.07 per professional staff member, $9.93 per home-town inhabitant, and $2.73 per home-county registered voter.

With respect to revenues (gate receipts and the like), the median district anticipated that 1972-73 income would amount to $5,345, constituting 36.007 per cent of the athletic budget, 1.574 per cent of all school expenses, and 0.418 per cent each thousand dollars of ISD assessed valuation. Gate receipts and related income amounted, for the median school, to $9.72 per pupil in all grades, to $29.65 per pupil in Grades 9-12, to $158.55 per professional staff member, to $5.18 per home-town inhabitant, and to $0.99 per home-county registered voter.

As for deficits, the median value computed for all 40 districts was $9,242. Constituting in the median district 63.471 per cent of all athletic expenditures and 2.458 per cent of all educational expenses, 1972-73 deficits has the following per capita median values: per pupil in all grades, $17.30; per pupil in grades 9-12, $58.89; per professional staff member, $313.65; per home-town inhabitant, $9.80; and per home-county registered voter, $1.78.

B. Results Should be Useful, Despite Their Recognized Limitations for Helping Administrators Answer Four Main Questions

By way of assessment, the statistical measures which have just been summarized should, it is believed, be helpful to small-school administrators concerned with planning and evaluating athletic budgets. Budget makers now have at least some comparative data for answering such questions as the following:

(1) Is the amount of money we budget for the athletic program in line, or out of line, with that budgeted by other small Texas schools?

(2) Do we compare favorably, or unfavorably, with other small Texas schools with respect to the amount of Enterprise Fund income we derive from gate receipts, concession profits, and the like?

(3) How do we measure up with other Texas schools regarding the amount of athletic-program subsidy we require from district taxpayers?

(4) How much should we:

(a) budget for the athletic program;
(b) derive from gate receipts; and
(c) expect district taxpayers to contribute to the athletic-program costs?

With respect to the last question, the analysis made in Section IV of this report would suggest that, until now, small-school administrators have been very much in the dark. That objective standards are needed is strongly suggested by the wide spreads between extreme values for all the ratios which were computed for each of the three major budget components.

While the reported measures should be generally helpful, though, they do have their limitations. Based on a small sample of ISD's which possibly may be unrepresentative of the universe and upon budgets which obviously understated the true costs of athletic programs, the reported measures have additional limitations. Perhaps the main one is that the ratios for absolute component values and for per capita values are inherently unstable under the kind of inflationary pressures which prevail in the United States today. One must always remember that these ratios are expressed in terms of 1972-73 dollars. If inflation continues, as seems likely, administrators will need to adjust these ratios upward before they can validly apply them in planning or evaluating athletic budgets for later years.

C. Future Research May Help to Overcome the Report's Present Deficiencies

In view of such limitations, it would be most desirable to consider the present report as only a preliminary approach

to the problem and to carry out additional, more extensive, and more sophisticated investigations, conducted perhaps over a span of several years, with the goal of ultimately developing and publishing completely trustworthy planning guidelines and evaluation criteria. To conduct such follow-up investigations is, in fact, a major goal of the author.

The achievement of this goal will, of course, require the interest and cooperation of a larger number of small-district superintendents than participated in the present preliminary study.[7] Hopefully, dissemination of the present report, as well as of related publications, will elicit the kind of interest and cooperation which will be needed.

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[7]For other research data, see Leo Lambert, "Do Texas School Administrators Know How Much They Spend -- Or Should Spend -- on Competitive Sports?" Texas School Business, August, 1974.